

DB953 产品样本

该管型为采用网状钨钨阴极、热解石墨栅，同轴型电极结构的金属陶瓷四极管，适宜在 10kW 电视发射机中作末级功率放大，工作频率最高可达 300MHz，可与 TH373 互换使用。



1 基本特性

1.1 阴极特性

加热方式	直热式
加热电压 (U_f , AC or DC)	9.5V
加热电流 (I_f)	约 80A

1.2 特征性能

阴极放射 ($U_a=U_{g1}=U_{g2}=300V$)	40A
内放大系数 ($U_a=2kV, U_{g2}=600$ to $1000V, I_a=3A$)	7.5
跨导 ($U_a=2kV, U_{g2}=800V, I_a=2.5$ to $3.5A$)	70mA/V
极间电容	
阴极—控制栅	76pF
控制栅—帘栅	115pF
帘栅—阳极	22pF
阴极—阳极	0.04pF
控制栅—阳极	0.32pF
帘栅—阴极	5.5pF

2 最大额定值

频率	f	110	MHz
阳极直流电压	U_a	9	kV

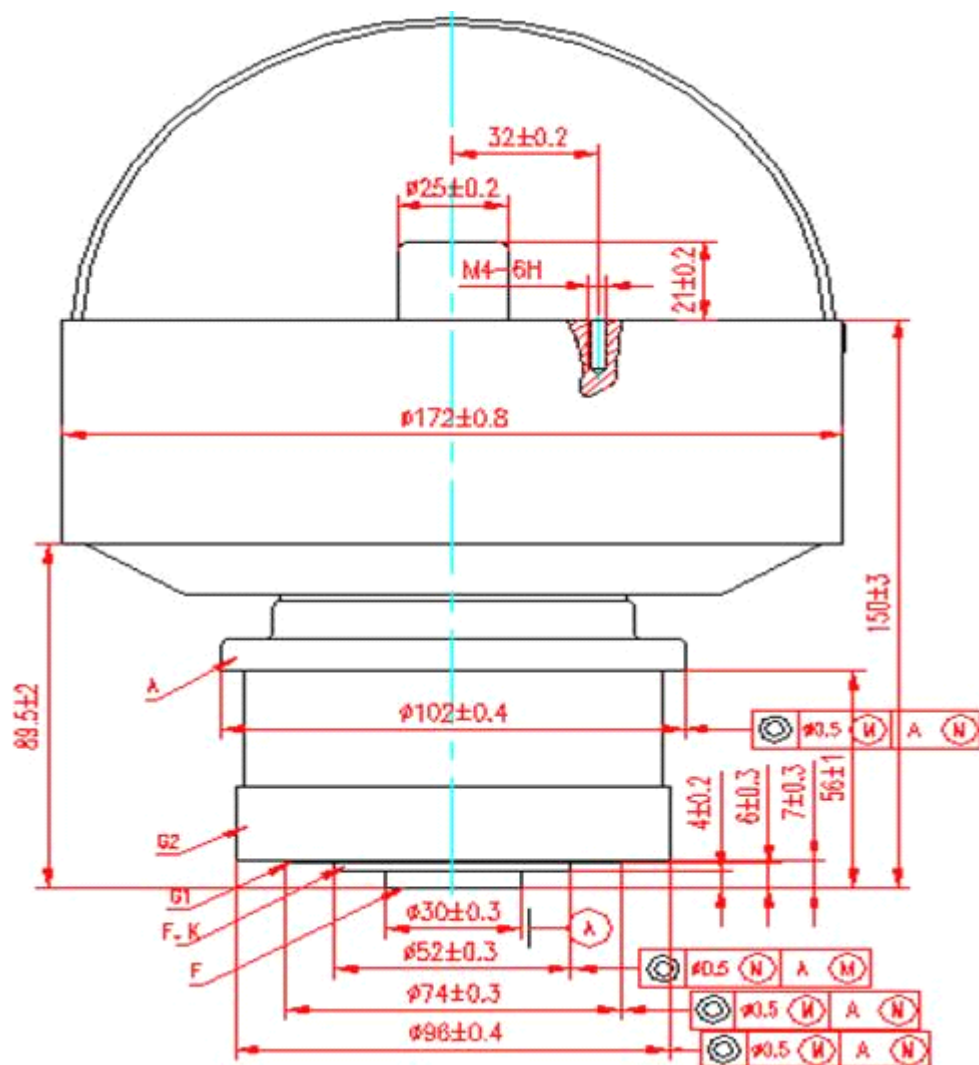
帘栅直流电压	U_{g2}	1000	V
控制栅直流电压	U_{g1}	-250	V
峰值阴极电流	I_{km}	35	A
阳极耗散功率	P_a	12	kW
控制栅耗散功率	P_{g1}	70	W
帘栅耗散功率	P_{g2}	270	W

3 典型工作状态

RF 放大（阴极接地，B 类应用）

频率	≤ 110	MHz
输出功率	12	kW
阳极电压	7.5	kV
控制栅电压	-100	V
帘栅电压	800	V
控制栅射频峰值电压	110	V
阳极电流	2.3	A
控制栅电流	50	mA
帘栅电流	200	mA
阳极输入功率	17.2	kW
激励功率	5	W
阳极耗散功率	5.2	kW
帘栅耗散功率	160	W
阳极负载电阻	1800	Ω

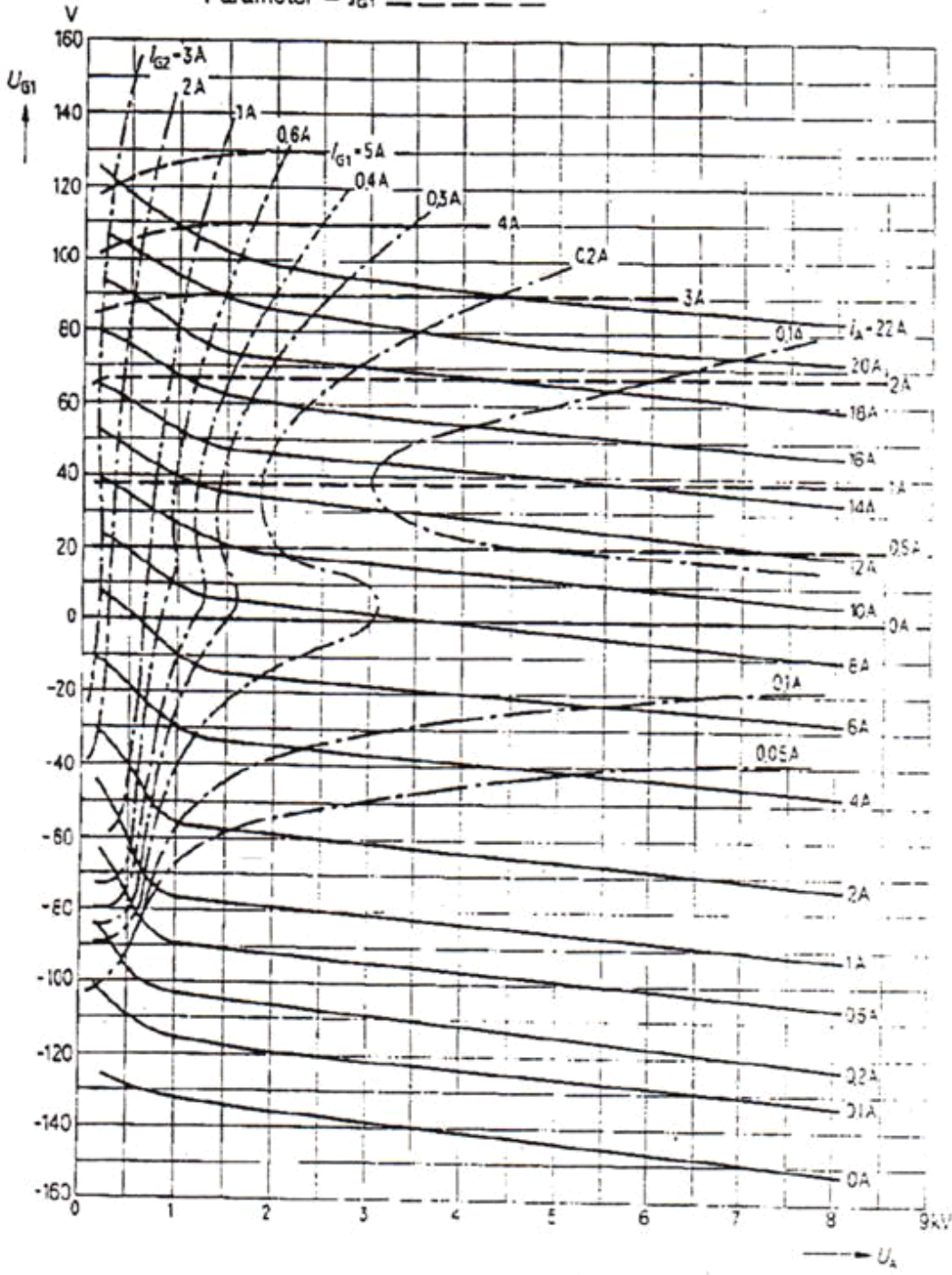
4 产品外形图



5 恒流特性曲线

$U_{G1} = f(U_A)$
 $U_{G2} = 800 \text{ V}$

Parameter = I_A —————
 Parameter = I_{G2} - - - - -
 Parameter = I_{G1} - - - - -



DB953 TETRODE

Coaxial metal-ceramic tetrode for frequencies up to 300MHz, forced-air-cooled; Due to the low feedback capacitance C_{g1a} the tube is also suitable for use in grounded cathode circuit. The Xuguang's DB953 could be used instead of the TH373.

1. General Characteristics

1.1 Cathode Characteristics

Heating	Direct
Heater Voltage (U_f , AC or DC)	9.5V
Heater Current (I_f)	Appr.80A

1.2 Feature Characteristics

Cathode Emission Current ($U_a=U_{g1}=U_{g2}=300V$)	40A
Internal Amplification Factor ($U_a=2kV$, $U_{g2}=600$ to $1000V$, $I_a=3A$)	7.5
Transconductance ($U_a=2kV$, $U_{g2}=800V$, $I_a=2.5$ to $3.5A$)	70mA/V

Interelectrode Capacitances

Cathode — Control-grid	76pF
Control-grid — Screen-grid	115pF
Screen-grid — Anode	22pF
Cathode — Anode	0.04pF
Control-grid — Anode	0.32pF
Screen-grid — Cathode	5.5Pf

2. Maximum Ratings

Frequency	f	110	MHz
Anode DC Voltage	U_a	9	kV
Screen-grid DC Voltage	U_{g2}	1000	V
Control-grid DC Voltage	U_{g1}	-250	V
Peak Cathode Current	I_{km}	35	A
Anode Dissipation	P_a	12	kW

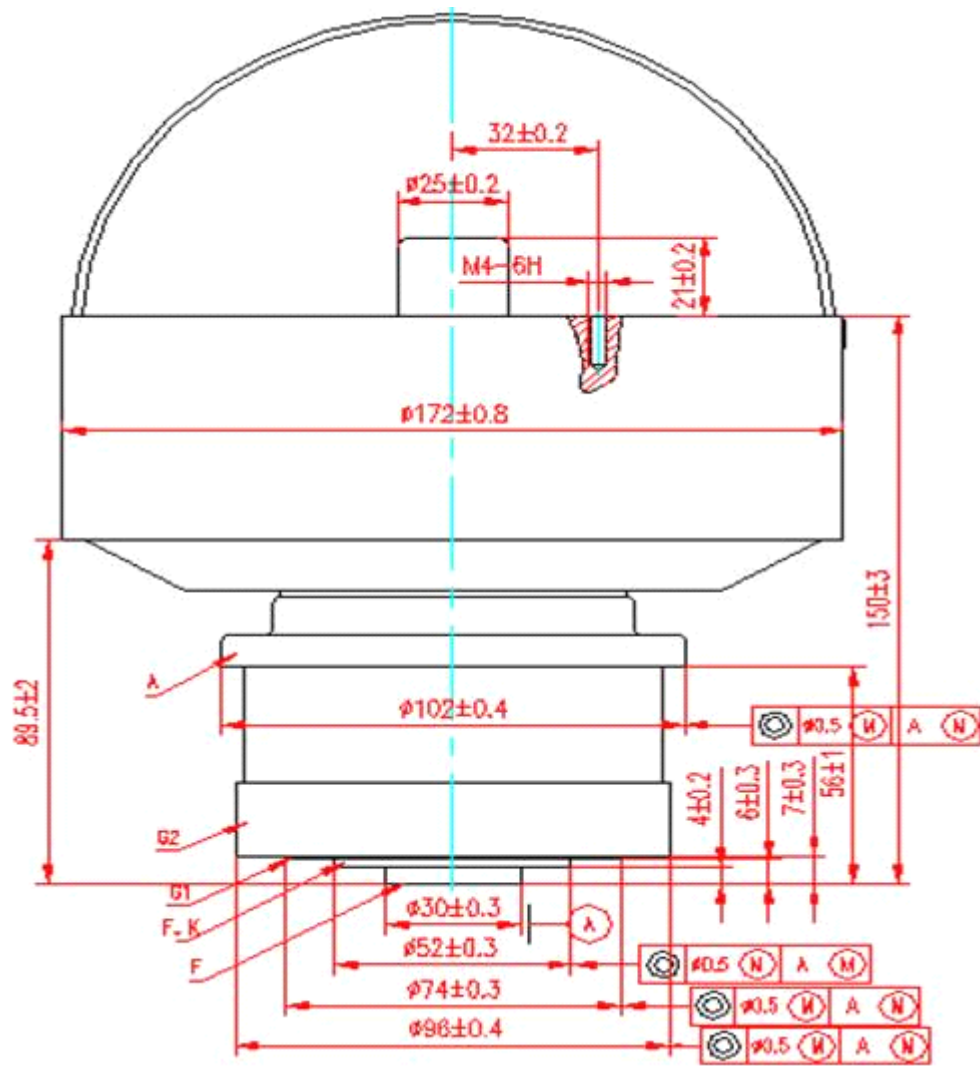
Control-grid Dissipation	P_{g1}	70	W
Screen-grid Dissipation	P_{g2}	270	W

3. Typical operation

RF amplifier (Class B operation, grounded cathode circuit)

Frequency	≤ 110	MHz
Output power	12	kW
Anode voltage	7.5	kV
Control-grid voltage	-100	V
Screen-grid volt	800	V
Peak RF Control-grid voltage	110	V
Anode current	2.3	A
Screen-gricurrent	200	mA
Control-grid current	50	mA
Anode input power	17.2	kW
Drive power	5	W
Anode dissipation	5.2	kW
Control-grid dissipation	160	W
Anode load resistance	1800	Ω

4. Product Outline Drawing



5 Constant current characteristics

